624.5

(NOT FOR PUBLICATION)

INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
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FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Ogden, Utah February 1960

SUMMARY OF FOREST INSECT FIELD SURVEILLANCE REPORTS SUBMITTED TO THE MISSOULA FOREST INSECT LABORATORY IN 1959

Archibald Tunnock, Jr., Entomologist

Prepared By The
Missoula Forest Insect Laboratory
Missoula, Montana

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Outbreaks of forest insects should be detected early. Survey entomologists are responsible for discovering outbreaks, but they must of necessity be aided by the cooperation and active participation of national forest personnel and that of other Federal, State, or industrial forestry agencies. Field personnel can participate by watching for symptoms of insect infestations while performing other duties in the forests. Field surveillance reports usually constitute the first evidence of a forest insect infestation which may require further evaluation to determine the need for applied control. These reports can be written on special insect field surveillance reporting forms (Forest Pest Detection Field Report, Budget Bureau No. 40-R2884.1. Form FS-11) that list the location, tree species, local environment, tree damage symptoms, and other conditions associated with the outbreak. These forms can be obtained from the Laboratory or from cooperating Federal forestry agencies. The reports are of most value to survey entomologists when they are received soon after an infestation is detected.

In the northern Rocky Mountains, forest insect surveillance reports are submitted directly or are channeled to the Missoula Forest Insect Laboratory from cooperating agencies. The purpose of these reports is to notify the Laboratory of specific forest insect outbreaks in northeastern Washington, northern Idaho, Montana, northwestern South Dakota, and Yellowstone National Park. If warranted, a reported outbreak may be biologically evaluated from the ground or from the air to determine the extent, severity, and nature of the damage and the need for control action. The location of each outbreak is marked at the Laboratory on a map which helps in visualizing individual insect infestation patterns reported throughout the region. At the end of the season, surveillance reports are organized into a report, such as this, so that insect species involved may be recorded from year to year. While most detected insect damage is of minor importance, nearly all past serious outbreaks have been originally disclosed by surveillance reports made by technicians of the Laboratory or those of cooperating agencies. Occasionally reports are received that constitute new records of insect species, their distribution, hosts, or type of damage. These are of extreme academic importance to taxonomic as well as economic entomologists everywhere. The reports are also useful in plotting the annual occurrence of insect species and changes in host tree damage.

INSECT OUTBREAKS REPORTED IN 1959

A total of 142 insect detection reports were received by the Laboratory in 1959, most of them between May and September when insects were most active and damage from their feeding most noticeable. This was a significant increase over the 72 reports received in 1958 and reflects greater interest of people working in the forests. The insects reported during 1959 are contained in a listing in table 1 of individual reports received. Other pertinent information on the locality, the host, and the name of the observer and his employing agency is also given in the listing.

During the year, 43 species of insects were reported to be causing damage to forest trees throughout the region. These have been serially numbered and listed in table 2. The location of each species reported is shown in figure 1. Of the 43 species reported, 11 were bark beetles, six of which are notorious tree killers (nos. 1, 2, 3, 4, 5, and 8). The lone wood borer (no. 12) reported is not of great economic importance. Two of the 10 defoliators (nos. 13 and 19) caused serious tree defoliation in 1959, with some tree mortality resulting from feeding by the spruce budworm (no. 13) over several years. None of the 8 sucking insects reported caused serious tree damage except to a few, widely scattered individual trees. Among the 5 cone, tip, and twig insects, two caused serious tree damage: the pine tip moth (31) to ponderosa pine reproduction, and the pine resin midge (34) to trees in ponderosa pine plantations. The eight miscellaneous insects reported are of academic interest primarily, but one species, the Engelmann spruce weevil (no. 43), continued to cause the killing or deformity of young spruce trees in several plantations in Idaho.

Reports of tree killing by the mountain pine beetle, the Douglas-fir beetle, and the western pine beetle were more numerous in 1959 than in 1958, suggesting increased abundance of these insects. Small groups of ponderosa pines attacked by Ips spp. were apparent early in the spring throughout most of the northwest part of Region One. Aphids were reported feeding heavily on true firs region-wide.

The Laboratory acknowledges the help of entomologists in the Division of State, Private Forestry, Forest Service Region One, for stimulating interest in detecting and reporting insect outbreaks by national forest personnel. Similar acknowledgement is made of reports received from personnel of other agencies and from persons not affiliated with any agencies. It is hoped that this report will encourage those working in the forests of this region to remain alert to the ever-present danger of insect pests and to report promptly the insect outbreaks that they initially detect.

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959

Source[1] of report	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		BEAVERHEAD N. F., MONTANA				
FSR	12/7/59	Wise River(T.1S,R.12W,Sec.36)	F. Bailey	FS	Pine needle scale	LPP
FSR	7/2/59	Soap Cr.(T.1S,R.1E,Sec.31)	N. J. Howarth	FS	Mountain pine beetle	LPP
		CLEARWATER N. F., IDAHO				
FSR	7/24/59	Sheep Mtn. Cr.(T.40N,R 7E, Sec. 31-32)	R. G. Cox	PFI	California tortoise-shell butterfly	Ceanothus
		COEUR D'ALENE N.F., IDAHO				
FSR	8/13/59	Stevens Cr.(T.51N,R 4E,Sec.30)	A. Tunnock	FS	Aphid-Cinara sp.	GF *
FSR	5/6/59	Fernan Area	C. J. Pedersen	FS	Cooley spruce gall aphid	DF
FSR	6/1/59	Hayden Lake area	R. A. Smart	FS	Pine needle scale	LPP
AR	8/5/59	Steamboat Cr.(T.51N,R 2E)	J. Vandenberg	FS	Mountain pine beetle	WWP *
AR	8/3/59	Coeur d' Alene District	C. J. Pedersen	FS	Mountain pine beetle	WWP
AR	8/3/59	Coeur d' Alene District	C. J. Pedersen	FS	Douglas-fir bark beetle	DF
		CUSTER N.F., MONT. AND S.D.				
FSR	9/2/59	Whitcomb Draw(T.3S,R 60E, Sec. 7 & 8 and T.3S,R 61W, Sec. 1, 2, & 12)	B. W. Alt	FS	Pine tip moth	PP *
FSR	9/2/59	Speelman Cr.(T.2S,R 61W,Sec.35)	B. W. Alt	FS	Black hills beetle	PP
FSR	9/2/59	Stillwater R.(T.7-8S,R 14E)	G. H. Mueller	FS	Engelmann spruce beetle	ES
FSR	9/25/59	Near Ashland	R. Z. Callaham	FS	Bird's-eye pine midge	PP
		DEERLODGE N.F., MONTANA				
AR	8/24/59	Boulder District	R. B. Jorgensen	FS	Spruce budworm	DF
AR	8/24/59	Butte District	R. B. Jorgensen	FS	Spruce budworm	DF
AR	8/24/59	Whitehall District	R. B. Jorgensen	FS	Spruce budworm	DF

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source of report [1]	Date of examination	Locality	Observer	Agency [2]	Causal Agent	Host [3]
		DEERLODGE N.F. MONTANA (cont.)				
AR	8/24/59	Deerlodge District	R. B. Jorgensen	FS	Spruce budworm	DF
AR	8/24/59	Philipsburg District	R. B. Jorgensen	FS	Spruce budworm	DF
AR	8/24/59	Elkhorn Drainage	R. B. Jorgensen	FS	Spruce spider mite	DF
AR	8/24/59	Deerlodge District	R. B. Jorgensen	FS	Tent caterpillar	chokecherry
		FLATHEAD N.F., MONTANA				
FSR	6/10/59	S.Fork Flathead R.(T.28N,R 17W, Sec. 13)	J. Morrison	FS	Mountain pine beetle	WWP
FSR	6/10/59	S.Fork Flathead R.(T.28N,R 17W, Sec. 13)	J. Morrison	FS	Douglas-fir bark beetle	DF
FSR	10/8/59	Dickey Cr.(T. 29N,R. 16W,Sec.17)	H. L. Schlueter	FS	Engelmann spruce beetle	ES
FSR	10/5/59	T. 25N., R. 15W, Sec. 17	J. E. Dewey	FS	Cooley spruce gall aphid	DF
		GALLATIN N.F., MONTANA				
FSR	8/6/59	Buckskin Cr.in Hyalite Drainage	E. D. White	FS	A sawfly	LPP
AR	8/14/59	Six Mile Drainage	B. Driver	FS	Douglas-fir bark beetle	DF
AR	8/14/59	Mol Heron Cr.	B. Driver	FS	Douglas-fir bark beetle	DF
AR	8/14/59	Rock Cr.(T.7S, R. 6E, Sec.15-22)	B. Driver	FS	Douglas-fir bark beetle	DF
AR	8/14/59	Cinnabar Cr.(T.8S, R 7E, Sec.26)	B. Driver	FS	Douglas-fir bark beetle	DF
		HELENA N.F., MONTANA				
FSR	7/22/59	Strawberry Mountain	D. O. Scott	FS	A pine tortrix	PP
FSR	10/13/59	General through Forest	D. Fellin	FS	A sawfly	PP *
AR	8/17/59	Beartrap Burn (T.12N,R 7W)	J. G. Allen	FS	Douglas-fir bark beetle	DF

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source of report[1/]	Date of examination	Locality	Observer	Agency[2/]	Causal Agent	Host[3/]
		KANIKSU N.F., IDAHO				
FSR	8/5/59	W. of Copeland(T.65N,R 1W,Secs.9, 15,16,17)	C. Morris	P	An aphid	WF
FSR	6/12/59	Quartz Cr. and Priest River, (T.57N,R 5W, Sec. 1 & 2) (T.57N,R 4W, Sec. 7 & 18)	W. R. Edinger	FS	Bird's eye pine midge	PP **
AR	8/12/59	Upper Myrtle, Compartment 519	J. F. Meneely	FS	Engelmann spruce beetle	ES
AR	8/12/59	Upper Smith, Compartment 509	J. F. Meneely	FS	Engelmann spruce beetle	ES
AR	8/12/59	American, Compartment 431	J. F. Meneely	FS	Engelmann spruce beetle	ES
AR	8/12/59	Canuck, Compartment 408	J. F. Meneely	FS	Engelmann spruce beetle	ES
AR	8/12/59	Blue Joe, Compartment 503	J. F. Meneely	FS	Engelmann spruce beetle	ES
AR	8/11/59	Granite Cr. (T.62N.)	D. Fandry	FS	Mountain pine beetle	WWP
AR	8/10/59	Wellington Cr.(T.57N, R 2E)	R. L. Gregson	FS	Mountain pine beetle	WWP
AR	8/10/59	Granite Cr.(T.55N, R 1W & 1E)	R. L. Gregson	FS	Western pine beetle	PP
AR	8/3/59	General in Newport District	J. R. Jansson	FS	Aphid - Cinara sp.	GF
AR	7/29/59	General in Falls District	A. J. Arvish	FS	Aphid - Cinara sp.	A bies
FSR	8/6/59	Kalispell Cr.(Gleason Burn)	T. T. Terrell	FS	Bird's-eye pine midge	PP **
		KOOTENAI N. F., MONTANA				
FSR	12/16/59	Rexford Face(T.36N,R 7 & 8W)	H. Woffenden	FS	Twig moth(Dioryctria)	PP
FSR	11/20/59	Rexford District	D. F. Williams	FS	Fir coneworm	DF
V	8/17/59	General through Forest	J. Castles	FS	Aphid- Cinara sp	GF
V	6/25/59	Rexford R.S.	D. O. Scott	FS	A sawfly	ES *
FSR	4/30/59	Kootenai R.(T.36N,R 28W,Sec.31)	F. Bolles	FS	Western Pine Beetle	PP
FSR	4/30/59	Kootenai R.(T.36N,R 28W,Sec.31)	F. Bolles	FS	Fungus beetle(Corticeus)	PP
M	8/59	Sullivan Cr.(T.36N,R 29W,Sec.16)	R. E. Lockhart	FS	Engelmann spruce beetle	ES *
FSR	12/17/59	McMillan Flat(T.29N,R 30W, Sec. 7 & 18)	D. Jaquish	FS	A pine shoot moth	PP
M	7/7/59	Large & Runt Crs.(T.36N,R 33W, Sec. 9)	H. J. Zwang	FS	Apanteles wasp(cocoons)	S

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source of report[1/]	Date of examination	Locality	Observer	Agency[2/]	Causal Agent	Host[3/]
		KOOTENAI N. F., MONTANA (cont.)				
FSR	8/6/59	T.29N,R 29W,Secs. 7,8,17,18,19,20, 29 & 30	T. T. Terrell	FS	Douglas-fir bark beetle	DF **
AR	8/10/59	Rexford District - Dodge Creek & Pinkham Cr.(Slick Gulch)	C. P. Kern	FS	Douglas-fir bark beetle	DF
AR	8/10/59	Yaak District - Kelsey Cr.,Dutch Cr., Pete Cr.,Burnt Cr. & Baldy Mountain	T. P. Farbo	FS	Douglas-fir bark beetle	DF
AR	8/10/59	Fortine District-Grave Cr. & Bluesky Cr.	R. Feilzer	FS	Douglas-fir bark beetle	DF
AR	8/10/59	Troy District - Rabbit Cr., Hummingbird Cr.,Feeder Cr., O'Brien Cr., Stanley Peak, and Benning Cr.	R. W. Steiner	FS	Douglas-fir bark beetle	DF
AR	8/10/59	Libby District - Libby Cr., & Poker Hill	D. Jaquish	FS	Douglas-fir bark beetle	DF
AR	8/10/59	Fisher R. District-Lower Fisher R.	R. D. Hunter	FS	Douglas-fir bark beetle	DF
AR	8/10/59	Rexford District - Young, Dodge, Boulder, N.F.Big and Big Crs., Red Mountain	C. P. Kern	FS	Engelmann spruce beetle	ES *
AR	8/10/59	Yaak District - Hawkins, Jungle, Winkam, Davis, Gold,Hudson, S.F. Meadow Crs.,Upper and Lower W.Fk. Yaak	R. P. Farbo	FS	Engelmann spruce beetle	ES *
AR	8/10/59	Fortine District-Wigwam Cr.	R. Feilzer	FS	Engelmann spruce beetle	ES *
AR	8/10/59	Troy District - Madge Cr. & Pulpit Mountain	R. W. Steiner	FS	Engelmann spruce beetle	ES
AR	8/10/59	Libby District - Cable Cr.	D. Jaquish	FS	Engelmann spruce beetle	ES
AR	8/10/59	Rexford District - Boulder Cr.	C. P. Kern	FS	Mountain pine beetle	PP

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source of report[1/]	Date of examination	Locality	Observer	Agency[2/]	Causal Agent	Host[3/]
		KOOTENAI N.F., MONT.(Cont.)				
AR	8/10/59	Yaak District - Pete, Beetle, Spread, 4th of July, Burnt, S.F. of Meadow Crs.	T. P. Farbo	FS	Mountain pine beetle	WWP
AR	8/10/59	Fortine District - Wigwam Cr.	R. Feilzer	FS	Mountain pine beetle	LPP
AR	8/10/59	Troy District - Whoopee, Hiatt, Briar, Drift, Feeder and Raymond Crs.	R. W. Steiner	FS	Mountain pine beetle	WWP
AR	8/10/59	Libby District - Pipe Cr. Ridge	D. Jaquish	FS	Mountain pine beetle	PP
AR	8/10/59	Pinkham Cr. (T.36N,R 28W)	C. P. Kern	FS	Moth (Laspyresia Fletcherana)	DF
AR	8/10/59	General through Forest	R. H. Cron	FS	Bird's-eye pine midge	PP **
		LEWIS & CLARK N.F., MONTANA				
FSR	10/30/59	Montana Gulch (N. of Zortman)	N. Wellter	BIA	A sawfly	LPP
FSR	8/6/59	Little Rockies (T.25N,R 24E, Sec. 15 and T. 25N, R 25E, Sec. 31)	M. F. Phillip	FS	Lodgepole pine sawfly	LPP *
FSR	4/6/59	Harlowton, Mont.	D. Reed	FS	Clover mite	In house
AR	8/17/59	W. half Belt Cr.District	M. F. Phillip	FS	Spruce budworm	DF
AR	8/17/59	Judith Dist.-Running Wolf, Spring Coulee, Dry Wolf, Morris, Elk, Yogo Crs. S.F. Judith, High Springs	M. F. Phillip	FS	Spruce budworm	DF
AR	8/17/59	Musselshell Dist.-Lion-Mill Cr.	M. F. Phillip	FS	Spruce budworm	DF
AR	8/17/59	White Sulphur Springs Dist. - Whitetail Deer, Decker, and Eagle Crs.	M. F. Phillip	FS	Spruce budworm	DF

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source of report[1/]	Date of examination	Locality	Observer	Agency[2/]	Causal Agent	Host[3/]
		LOLO N.F., MONTANA				
FSR	7/23/59	Seeley Lake area	P. C. Johnson	FS	An aphid	AF *
FSR	5/15/59	Bend G.S.	D. Carter	FS	Pine needle scale	LPP
FSR	3/18/59	Frenchtown (T.15N,R 21W,Sec.36)	A. Tunnock	FS	Western pine beetle	PP *
FSR	3/18/59	Frenchtown (T.15N,R 21W,Sec.36)	A. Tunnock	FS	Ips integer	PP *
FSR	3/2/59	Quartz Cr. (T.15N,R 24W,Sec.9)	E. J. Kinsman	FS	Ips emarginatus	PP *
FSR	3/2/59	Quartz Cr. (T.15N,R 24W,Sec.9)	E. J. Kinsman	FS	Ips integer	PP *
FSR	3/2/59	Quartz Cr. (T.15N,R 24W,Sec.9)	E. J. Kinsman	FS	Ips oregonis	PP *
FSR	3/2/59	Quartz Cr. (T.15N,R 24W,Sec.9)	E. J. Kinsman	FS	Western pine beetle	PP *
FSR	3/2/59	Quartz Cr. (T.15N,R 24W,Sec.9)	E. J. Kinsman	FS	Fungus beetle (Corticeus)	PP *
FSR	3/2/59	Quartz Cr. (T.15N,R 24W,Sec.9)	E. J. Kinsman	FS	Scavenger beetle (Aulonium)	PP *
AR	8/20/59	General through Forest	B. C. Amsbaugh	FS	Cooley spruce gall aphid	DF
AR	8/20/59	Powell, Superior and Thompson Falls Districts	B. C. Amsbaugh	FS	Engelmann spruce beetle	ES
AR	8/20/59	Ninemile, Seeley Lake and Powell Districts	B. C. Amsbaugh	FS	Douglas-fir bark beetle	DF
AR	8/20/59	East end of Bonita Dist.	B. C. Amsbaugh	FS	Spruce budworm	DF
AR	8/20/59	Lost Park Cr. on Lolo Dist.	B. C. Amsbaugh	FS	Spruce budworm	DF
		NEZPERCE N.F., IDAHO				
AR	8/4/59	Elfers and Cow Crs.	D. R. Howard	FS	Pine butterfly	PP
AR	8/4/59	Meadow Cr.	J. R. Lyman	FS	Pine butterfly	PP
AR	8/4/59	Peasley, Cougar, Meadow Crs., Blacktail Mountain	J. R. Lyman	FS	Western pine beetle	PP
AR	8/14/59	Rhoda, Wounded Doe, Lizard, Three Links, Log, Sixty-two, and W. Moose Crs.	L. O. Smith	FS	Engelmann spruce beetle	ES

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source of report[1]	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		NEZPERCE N.F., IDAHO (Cont.)				
AR	8/18/59	Tahoe Ridge (T.32N,R 6E)	K. W. Spelman	FS	Douglas-fir bark beetle	DF
AR	8/18/59	Tahoe Ridge (T.32N,R 6E)	K. W. Spelman	FS	Western pine beetle	PP
		ST. JOE N.F., IDAHO				
V	9/3/59	Berge Cr. (T.44N,R 9E,Sec.5)	B. A. Graham	FS	Mountain pine beetle	LPP *
FSR	7/31/59	Rock Cr. (T.46N,R 4E,Sec.36) Storm Cr. (T.46N,R 5E,Sec.20)	J. E. Estes	FS	California tortoise-shell butterfly	Ceanothus*
FSR	2/16/59	Near Palouse R.S.	T. L. Finch	FS	Ips oregonis	PP *
FSR	2/16/59	Near Palouse R.S.	T. L. Finch	FS	Ips integer	PP *
FSR	2/16/59	Near Palouse R.S.	T. L. Finch	FS	Western pine beetle	PP *
AR	8/24/59	Lamb Cr. (T.47N,R 3W)	G. F. Weyermann	FS	Aphid-Cinara sp	GF
AR	8/24/59	Bird & Bottle Crs. Turner Flats	A. B. Johnson	FS	Mountain pine beetle	WWP *
AR	8/24/59	Bird Cr. to Gold Cr.	A. B. Johnson	FS	Douglas-fir bark beetle	DF
AR	8/24/59	Palouse R. and Boulder Cr.	C. J. Miller	FS	Ips sp	PP
RO	11/2/59	Palouse Dist.-E.Fk Meadow Cr.	H. J. Viche	FS	Douglas-fir bark beetle	DF
		FORT BELKNAP INDIAN RES.				
FSR	10/28/59	T.25N,R 25E,Sec.2 SE¼,Sec.1 SW¼	N. Weelter	BIA	A sawfly	PP
		IDAHO (PRIVATE LANDS)				
FSR	8/17/59	T.47N, R 3W, Sec. 23	W. J. Mitchell	P	Aphid - Cinara sp	GF
		WASHINGTON (PRIVATE LANDS)				
FSR	5/25/59	Spokane	C. Chapman	P	Spruce spider mite	S

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source of report[1/]	Date of examination	Locality	Observer	Agency[2/]	Causal Agent	Host[3/]
		MONTANA (PRIVATE LANDS)				
V	7/18/59	Augusta, Montana	Mr. Beull	P	Spruce spider mite	S
FSR	9/25/59	Thompson Falls, Montana	N. Fullerton	P	Pear slug	cherries and pears
FSR	9/16/59	N.of Armell(T.18N,R 20E,Sec.3&10)	R. Zobell	BLM	A sawfly	PP *
FSR	3/4/59	Plains(T.20N,R 26W,Sec.19)	R. L. Carter	FS	Western pine beetle	PP *
FSR	3/4/59	Plains (T.20N,R 26W,Sec.19)	R. L. Carter	FS	Ips oregonis	PP *
V	5/14/59	Missoula, Montana	Mrs. G. L. Barnes	P	Pine needle scale	S *
FSR	6/12/59	Ennis, Montana	E. Love	SCS	Scavenger beetle(Cacujid)	Poplar
FSR	6/12/59	Ennis, Montana	E. Love	SCS	Predaceous fly (Xylophagid)	Poplar
V	6/29/59	St.Patrick's Hospital, Missoula	Mr. Lansing	P	Spruce spider mite	S
FSR	7/17/59	Livingston, Montana	J. J. Van Aiken	P	Aphids	S
V	8/17/59	East shore Flathead Lake	V. Johnson	P	Carpenter ants	Timber
V	9/11/59	Missoula, Montana	G. Sherry	P	Wood borers(Buprestid)	Juniper*
V	6/23/59	Missoula, Montana	M. F. Stockner	P	Red turpentine beetle	PP *
V	6/23/59	Missoula, Montana	M. F. Stockner	P	Western pine beetle	PP *
V	7/13/59	Missoula, Montana	C. B. Westcott	FS	Spruce needle miner	S *
V	7/13/59	Missoula, Montana	C. B. Westcott	FS	Pine needle scale	S *
		GLACIER NATIONAL PARK				
FSR	9/19/59	Kishenehn Cr.	A. Tunnock	FS	Engelmann spruce weevil	ES *
FSR	6/15/59	E.Shore St.Mary Lake	E. Hummel	NPS	Cooley spruce gall aphid	DF
FSR	9/24/59	Southeastern shore Lake McDonald	A. Tunnock	FS	Douglas-fir bark beetle	DF *
FSR	9/24/59	Southeastern shore Lake McDonald	A. Tunnock	FS	Douglas-fir bark beetle	L *
FSR	9/24/59	Southeastern shore Lake McDonald	A. Tunnock	FS	Mountain pine beetle	WWP *

Table 1.--Forest insect field surveillance reports submitted to the Missoula Forest Insect Laboratory in 1959 (continued)

Source[1] of report	Date of examination	Locality	Observer	Agency[2]	Causal Agent	Host[3]
		BUR. LAND MGT., MONTANA				
FSR	3/6/59	Centennial Valley (T.14N,R 1E, Sec. 21)	J. E. Coster	BLM	Spruce budworm	DF *
		MONTANA (STATE LANDS)				
FSR	7/13/59	Rexford (T. 36N,R 27-28W)	H. T. Vars	MSFD	Bird's-eye pine midge	PP
FSR	8/19/59	Blackfoot Valley (T.13N,R 15W, Sec. 14)	D. O. Scott	FS	Larch sawfly	L
V	1/14/59	M.S.University, Missoula	F. W. Krieger	MSU	Pine needle scale	Pine
		IDAHO (STATE LANDS)				
FSR	6/4/59	Near Pierce	P. C. Johnson	FS	Beetle (*Pityogenes* sp)	WWP *
		WASHINGTON (STATE LANDS)				
FSR	11/9/59	Spokane	P. C. Johnson	FS	Black pine leaf scale	PP *

KEY TO ABBREVIATIONS IN TABLE ONE

1/

AR = annual insect report of Forest Service district rangers
FSR = field surveillance report
M = memo
RO = Forest Service regional office
V = verbal

* = area surveyed on the ground by Laboratory personnel

** = area surveyed from the air by Laboratory personnel

2/

FS = United States Forest Service
BIA = United States Bureau of Indian Affairs
PFI = Potlatch Forests, Incorporated
P = private individual
MSFD = Montana State Forestry Department
BLM = Bureau of Land Management
NPS = National Park Service
MSU = Montana State University
SCS = Soil Conservation Service

3/

AF = alpine fir
DF = Douglas-fir
ES = Engelmann spruce
GF = grand fir
L = western larch
LPP = lodgepole pine
PP = ponderosa pine
S = spruce (ornamentals)
WF = white fir
WWP = western white pine

Table 2.--Identity and occurrence of forest insects reported to the Missoula Forest Insect Laboratory in 1959

Number	Common name	Order	Family	Genus and species	No. of times reported
	BARK BEETLES				
1	Douglas-fir beetle	Coleoptera	Scolytidae	Dendroctonus pseudotsugae (Hopk.)	20
2	Mountain pine beetle	Coleoptera	Scolytidae	Dendroctonus monticolae Hopk.	14
3	Engelmann spruce beetle	Coleoptera	Scolytidae	Dendroctonus engelmanni Hopk.	16
4	Western pine beetle	Coleoptera	Scolytidae	Dendroctonus brevicomis Lec.	9
5	Black hills beetle	Coleoptera	Scolytidae	Dendroctonus ponderosae Hopk.	1
6	Red turpentine beetle	Coleoptera	Scolytidae	Dendroctonus valens Lec.	1
7	Pine engraver beetle	Coleoptera	Scolytidae	Ips spp.	1
8	Oregon pine engraver	Coleoptera	Scolytidae	Ips oregonis (Eichh.)	3
9	Emarginate ips	Coleoptera	Scolytidae	Ips emarginatus Lec.	1
10	Sawtooth pine engraver	Coleoptera	Scolytidae	Ips integer Eichh.	3
11	Pine engraver beetle	Coleoptera	Scolytidae	Pityogenes sp	1
	WOOD BORERS				
12	Flatheaded borer	Coleoptera	Buprestidae	Undetermined	1
	DEFOLIATORS				
13	Spruce budworm	Lepidoptera	Tortricidae	Choristoneura fumiferana (Clem.)	12
14	A pine tortrix	Lepidoptera	Tortricidae	Choristoneura probably lambertianae	1
15	Calif.tortoise-shell butterfly	Lepidoptera	Nymphalidae	Nymphalis californica (Bdr.)	2
16	Tent caterpillar	Lepidoptera	Lasiocampidae	Malacosoma sp.	1
17	Larch sawfly	Hymenoptera	Tenthredinidae	Pristiphora erichsonii (Hartig)	1
18	Sawflies	Hymenoptera		Undetermined	6
19	Lodgepole pine sawfly	Hymenoptera	Diprionidae	Neodiprion burkei Midd.	1
20	An Olethreutid moth	Lepidoptera	Olethreutidae	Laspeyresia fletcherana (Kearf.)	1
21	Pine butterfly	Lepidoptera	Pieridae	Neophasia menapia Feld.	2
22	Pear slug	Hymenoptera	Tenthredinidae	Caliora cerasi (Linn)	1

Table 2.--Identity and occurrence of forest insects reported to the Missoula Forest Insect Laboratory in 1959 (Cont.)

Number	Common name	Order	Family	Genus and species	No. of times reported
	SUCKING INSECTS				
23	Aphid (on Abies)	Homoptera	Aphidae	Cinara sp.	8
24	Cooley spruce gall aphid	Homoptera	Phylloxeridae	Chermes cooleyi Gill	4
25	Aphid (on alpine fir)	Homoptera		Undetermined	1
26	Aphid (on spruce)	Homoptera		Undetermined	1
27	Pine needle scale	Homoptera	Coccidae	Phenacaspis pinifoliae (Fitch)	4
28	Black pine leaf scale	Homoptera	Coccidae	Nuculaspis californica (Coleman)	1
29	Spruce spider mite	Acarina	Tetranychidae	Oliyonychus ununguis (Jacobi)	4
30	Clover mite	Acarina	Tetranychidae	Bryobia praetiosa (Koch)	1
	CONE, TIP, AND TWIG INSECTS				
31	Pine tip moth	Lepidoptera	Olethreutidae	Rhyacionia frustrana bushnelli (Busch)	2
32	A twig moth	Lepidoptera	Pyralidae	Dioryctria spp.	1
33	A pine shoot moth	Lepidoptera		Undetermined	1
34	Pine resin midge	Diptera	Itonididae	Retinodiplosis near inopsis O.S.	5
35	Cone pyralid	Lepidoptera	Pyralidae	Dioryctria abietella (D. & S.)	1
	MISCELLANEOUS INSECTS				
36	Fungus eating beetle	Coleoptera	Tenebrionidae	Corticeus sp.	2
37	Scavenger beetle (on PP)	Coleoptera	Colydiidae	Aulonium sp.	1
38	Wasp on spruce needles	Hymenoptera	Braconidae	Apanteles sp.	1
39	Scavenger beetle (on poplar)	Coleoptera	Cacujidae	undetermined	1
40	Predaceous fly (on poplar)	Diptera	Xylophagidae	undetermined	1
41	Carpenter ants	Hymenoptera	Formicidae	Camponotus sp.	1
42	Spruce needle miner	Lepidoptera	Olethreutidae	Taniva albolineana (Kearf.)	1
43	Engelmann spruce weevil	Coleoptera	Curculionidae	Pissodes engelmanni Hopk.	1
				Total	142

Table 3.--Frequency of reports from cooperating agencies during 1959

Agency		No. of reports
U. S. Forest Service		
Regional Office		8
National Forests:	Beaverhead	2
	Bitterroot	0
	Clearwater	0
	Coeur d' Alene	5
	Colville	0
	Custer	3
	Deerlodge	7
	Flathead	4
	Gallatin	5
	Helena	1
	Kaniksu	11
	Kootenai	25
	Lewis and Clark	6
	Lolo	14
	Nezperce	6
	St. Joe	10
Missoula Forest Insect Laboratory		12
U. S. Bureau of Indian Affairs		2
Potlatch Forests, Incorporated		1
Private individuals		12
Montana State Forestry Department		1
Bureau of Land Management		2
National Park Service		1
Montana State University		1
Soil Conservation Service		2
	Total	141

Fig. 1

FOREST INSECT SURVEILLANCE REPORTS, NORTHERN ROCKY MOUNTAIN REGION, 1959

INSECTS REPORTED

1. Douglas-fir bark beetle
2. Mountain pine beetle
3. Engelmann spruce beetle
4. Western pine beetle
5. Black hills beetle
6. Red turpentine beetle
7. Pine engraver beetle
8. Oregon pine engraver
9. Emarginate ips
10. Sawtooth pine engraver
11. Pine engraver beetle
12. Flathead borer in juniper
13. Spruce budworm
14. A pine tortrix
15. Calif. tortoise-shell butterfly
16. Tent Caterpillar
17. Larch sawfly
18. Sawflies
19. Lodgepole pine sawfly
20. An olethreutid moth
21. Pine butterfly
22. Pear slug
23. Aphid on firs
24. Cooly spruce gall aphid
25. Aphid on alpine fir
26. Aphid on spruce
27. Pine needle scale
28. Black pine leaf scale
29. Spruce spider mite
30. Clover mite
31. Pine tip moth
32. A twig moth
33. A pine shoot moth
34. Bird's-eye pine midge
35. Cone pyralid
36. Fungus eating beetle
37. Scavenger beetle in p. pine
38. Wasp on spruce needles
39. Scavenger beetle in poplar
40. Predaceous fly in poplar
41. Carpenter ants
42. Spruce needle miner
43. Engelmann spruce weevil

BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
CANADA
UNITED STATES
NORTH DAKOTA
SOUTH DAKOTA
MONTANA
IDAHO
WYOMING
OREGON
WASHINGTON
NEVADA
UTAH
COLORADO

GLACIER NATIONAL PARK
BLACKFEET INDIAN RESERVATION
FORT BELKNAP INDIAN RESERVATION
TONGUE RIVER NORTHERN CHEYENNE IND. RES.
CROW INDIAN RESERVATION
YELLOWSTONE NATIONAL PARK

KANIKSU
KOOTENAI
FLATHEAD
CABINET
COEUR D'ALENE
ST. JOE
CLEARWATER
LOLO
BITTERROOT
NEZPERCE
SELWAY
SALMON
CHALLIS
BOISE
SAWTOOH
LEMHI
BEAVERHEAD
HELENA
DEERLODGE
LEWIS AND CLARK
GALLATIN
ABSAROKA
CUSTER
BIGHORN
BLACK HILLS
SHOSHONE
TETON

LEGEND

NATIONAL FORESTS
REGION 1
1956

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

INTERMOUNTAIN FOREST & RANGE EXPERIMENT STATION